REMARKS

Background

It is useful to recall the history of this application and the file wrapper information of record. As noted in the Appeal Brief dated 11/4/2004 the following is a summary:

Application Filed 6/18/2001
Office Action dated 7/18/2002
Office Action Response filed 10/18/2002
Office Action dated 1/3/2003
Telephone Interview 1/29/2003
Office Action Response filed 1/30/2003
Office Action dated 5/15/2003
Office Action Response filed 7/9/2003
Advisory Action dated 7/30/2003
Request for Continued Examination (RCE) filed 8/15/2003
Office Action dated 12/3/2003
Telephone Interview 2/27/2004
Office Action Response filed 3/1/2004
Office Action dated 6/4/2004
Personal Interview held 7/29/2004
Office Action Response filed 8/6/2004
Advisory Action dated 8/27/2004
Appeal Brief dated 11/4/2004
Notice of Allowance dated 3/8/2005
Issue Fee dated 3/15/2005
Request for Continued Examination (RCE) with IDS filed 4/6/2006
Office Action dated 6/30/2005

Both the Applicant and the Examiner have taken considerable time and effort to scrutinize this application and there is an abundance of material already of record and the responses, Appeal, Declarations and supporting materials will be referenced herein for convenience in lieu of reiterating the contents of each.

All pending claims are presently rejected under 35 USC 103 based on Endo (Japanese Patent No. 9-98658), Greengrass (U.S. Pat. No. 4,886,372), Kocher (U.S. Pat. No. 5,919,547) and Porchia (U.S. Pat. No. 5,492,705). The Examiner did not provide a translation of the Endo

reference, however the Applicant has used the Japan Patent Office automatic translation feature which generated the attached translation for reference purposes.

Claim Rejections – 35 USC § 103

The Office has rejected claim 1-8 as being unpatentable over Greengrass in view of Endo. Applicant has carefully considered the Office rejections and respectfully submits that the claims, as supported by the arguments herein, are distinguishable from the cited references alone or in combination. The standards for 35 USC 103 have already been recited.

With respect to the only Independent claim, claim 1 recites:

- a non-porous polymeric material; (Marston Application, Fig.1 ref # 40; Marston Application pages 17, lines 5-11)
- a set of microperforations on said polymeric material, wherein said set of microperforations are drill holes and (Marston Fig.1 ref # 100)
- based on a number and a size of said microperforations, control and maintain said optimum atmospheric conditions within specified O_2 and CO_2 concentrations for said respiring produce, (Marston Application; page 19, lines 29-31; page 20, lines 24-29; see Examples 1-6, pages 21-30)
- said optimum atmospheric conditions containing less than about 20.9% O_2 and greater than about 0.03% CO_2, (Marston Application Page 5, line 1; Marston Application Page 21, Example 1 lines 7-30; Page 8, lines 1-25)
- wherein said polymeric material provides a total O_2 Flux ranging from 150 cc/day-atm to 5,000,000 cc/day-atm and (Marston Application Page 20, lines 24-29)
- wherein each of said microperforations has an average diameter between 110 and 400 microns and (Marston Application Page 19, lines 29-31; Fig. 1 ref # 100)

- said set of microperforations are placed in a registered target area on said polymeric material, said registered target area being a finite region on said polymeric material. (Marston Application Page 16, lines 5-15; Fig. 2 ref # 50)

The Office again states that Greengrass establishes an improved packaging material similar to the present invention and then attempts to match Greengrass elements to those of the present invention. The Appeal Brief pages 18-26 already explains in detail that the propositions set forth by the Examiner are erroneous with respect to twisting Greengrass to derive elements of the present invention. Applicant respectfully requests that the Examiner refer to these pages for the supporting arguments, wherein Applicant submits that Greengrass does not provide a description having the qualities extolled by the Examiner.

In summary, Greengrass describes a mechanical perforating system that makes punch hole perforations in PVC films for produce packaging. In a typical application, rods with pins embedded into the surface of the cylinder punch the holes in the film with the perforations in rows across the surface of the film. Greengrass employs holes to improve package longevity with empirical estimations related to delayed "ripening". (Greengrass Col. 2, lines 39-55) The Greengrass hole sizes are described in the various embodiments and claimed as being 20 mm to 60 mm. As shown in all the Greengrass Figures, the Greengrass perforations are not in a small identifiable target area on the package, but distributed throughout the plastic film. Thus, Greengrass uses a mechanical punch to make very large size holes to establish some atmospheric condition within the package and does not place the microperforations in a registered, finite target area. Greengrass discloses in the background section the basic concepts of MAP with respect to ripening. (Greengrass Col 1, lines 21-32.) This is vastly different than the present invention as already set forth.

The Examiner again states that Greengrass employs drill holes on a target area, "a position which eliminates the possibility of product within the pack blocking the microperforation." (Office Action dated 6/30/2005, page 2) Applicant strongly urges the Examiner to re-consider this position as Greengrass does not disclose a small identifiable target

region with all the holes in that region. Rather, Greengrass suggests that the small number of openings "should be placed in such positions in said package as to eliminate the possibility of product within the packs blocking the micro perforations." (Greengrass Col 2, lines 56-62) Based on the Greengrass specification and figures, this refers to orienting the perforations that exist across the surface of the film such that the produce, typically higher in the center of the package, does not occlude the holes. There is NO description in Greengrass that depicts locating all the holes in a small identifiable target region. The Examiner is not allowed to "invent" new developments into Greengrass that simply do not exist.

The Office acknowledges that Greengrass does not provide for microperforations having an average diameter between 110-400 microns and providing a total oxygen flux ranging from 150 cc/day-atm to 5,000,000 cc/day-atm. The Examiner tries to combine Endo to support these two elements. This combination is improper as argued elsewhere herein.

Endo describes a mushroom packaging having a tray and packaging materials about the tray. The system employs Modified Atmosphere (MAP) techniques as do many of the other references. The range for "oxygen transmittance" in Endo is stated to be about 5000-18000 cc/m2-day-atm. There are no details wherein based on a number and a size of the microperforations, the microperforations control and maintain said optimum atmospheric conditions within specified O_2 and CO_2 concentrations for the respiring produce and wherein the optimum atmospheric conditions contains less than about 20.9% O_2 and greater than about 0.03% CO_2. The "tiny holes" appear to be in the 100 +/-20 micron size. There is no description of any registration of the "tiny holes" in a registered target area nor any material or reasoning to expect such a feature.

The Applicant has carefully reviewed Endo and tested samples employing the methodology and system of Endo, which in included in the following attachments:

Exhibit 1 – Data Plots of OTR Specifications According to Endo at 4 °C; Lidding Film, 1 100micron hole

Exhibit 2 – Data Plots of OTR (Oxygen Transmission Rate) Specifications According to Endo at 15 °C; Lidding Film, one 100micron hole

Exhibit 3 – Data Plots of OTR Specifications According to Endo at 4 °C; Lidding Film, four 100micron holes

Exhibit 4 – Data Plots of OTR Specifications According to Endo at 15 °C; Lidding Film, four 100micron holes

Exhibit 5 – Calculated OTR and O_2 Flux Values Required to Maintain 5% O_2 levels; 387,500 cc/m^2-day (25,000 cc/100 in^2-day) at 4°C; Lidding Film 100g mushrooms

Exhibit 6 – Calculated OTR and O_2 Flux Values Required to Maintain 5% O_2 levels; 1,550,000 cc/m^2-day (100,000 cc/100 in^2-day) at 15°C; Lidding Film 100g mushrooms

The Applicant has provided a detailed explanation of Endo and is willing to provide such information in the form of a Declaration upon request of the Examiner if such Declaration would support allowance.

As is readily apparent, the Endo patent does not allow one to determine the number and size of microperforations needed to attain the optimum atmosphere for mushrooms. In fact, if one follows their suggestions relating to OTRs (they do not describe Flux requirements), there is a potential safety risk of *Clostridium botulinum* (*C. botulinum*) toxin formation in those packaged mushrooms.

Endo does not account for the changes in OTR as a function of respiration rate and storage temperature. Endo Table 2 entitled "Oxygen and carbon-dioxide-gas concentrations (%) in a package" includes the data for Example 1, Example 2, Example 1 Comparison, and Example 2 Comparison after 1, 2, 3, and 4 days storage. As detailed herein regarding acceptable O_2 and CO_2 values, Endo Table 2 shows that the O_2 and CO_2 contents after two days at 5 °C and after four days storage at 15 °C are unacceptable for maintaining eating quality and safety of fresh packaged mushrooms. Below is a discussion of both the eating quality and safety of packaged mushrooms in light of the Endo Patent. While providing O_2 and CO_2 data inside the packages

during storage – Endo does not describe a system that optimizes the conditions as is detailed in the present invention.

Eating Quality of Packaged Mushrooms and Controlled Atmosphere Packaging. Respiration rates of fresh mushrooms can be reduced by controlling the atmosphere inside the package. However, drastically reducing O_2 and elevated CO_2 will reduce quality during storage. The literature in the art suggests that package atmospheres of 11-17% O_2 and 4-10% CO_2 reduce quality changes during storage. Carbon dioxide concentrations greater than 10% cause the breakdown of mushroom tissue (*Mushroom Journal* 1990, 212: 288, J Sci. Fd. Agr. 1973, 24: 1371). Based on these findings, the low O_2 values and high CO_2 values given by Endo would **not** lead to quality retention and shelf life extension. The off-odors ("smelling") would not have been eliminated by maintaining the atmospheres given in Table 2 of Endo.

Safety of Packaged Mushrooms. It is well-known that mushrooms are typically contaminated with one or two viable *C. botulinum* spores per gram of tissue, and mushrooms fulfill the nutrient requirements of this toxin-producing microorganism (H. Sugiyama, Applied Microbiology, 30(6), 1975). It is a standard industry practice of placing 1/8th inch holes (3,175 microns) in mushroom films to discourage the growth of *C. botulinum*, although the shelf life of mushrooms is reduced by this practice (U.S. FDA, *Center for Food Safety & Applied Nutrition*, September 30, 2001).

Fresh mushrooms packaged in sealed containers are particularly susceptible to the growth and toxin production of *C. botulinum*. Fresh mushrooms have a very high respiration rate, and when they are packaged in a hermetically sealed (non-leaky) container and are exposed to abuse temperatures (temperatures above 4 or 5°C) the oxygen level within the package decreases rapidly as a result of the increased respiration rate of the mushrooms. The resulting anaerobic environment inside the package encourages the growth of *C. botulinum*, particularly at elevated temperatures. Dr. Hasan, a leading expert in *C. botulinum* growth on food at North Carolina State University, suggests that to inhibit the growth and toxin production by *C. botulinum*, a package atmosphere of 5% O_2 or greater should be stipulated at all storage temperatures. This

high O_2 level is recommended because studies on mushrooms stored in O_2 levels of 2-3% developed *C. botulinum* toxin but still looked edible, indicating a potential safety hazard for consumers (*Food Technology*, Dec., 1982, pgs. 113-115).

Endo does not consider the high respiration rate of mushrooms when selecting the OTR for the container. Furthermore, Endo does not discuss Flux rates (**Flux (cc/day-atm) = Package Surface Area (in^2) x OTR (cc/100 in^2-day-atm)**). In Endo Example 1 (100 g mushrooms, one 100-micron hole), Endo states that the lidding film has an OTR of 7200 cc/m^2-day-atm (EndoTable 1), which is equivalent to an OTR of 465 cc/100 in^2-day-atm. This is the calculated **O_2 Flux of 123 cc/day-atm**, based on the Endo surface area of 26.36 in^2. The package is stored at 5°C for 2 days and then for 4 days at 15°C.

Based on the respiration rates of fresh mushrooms, the Applicant used computer models to determine the O_2 and CO_2 levels inside the 100-gram packages of mushroom at 4°C and 15°C (NOTE: Applicant did not have the respiration rates at 5°C; however, values at 5°C should not be significantly different from those at 4°C) **Exhibits 1-6** are used to show that Endo does not accurately depict the optimum atmosphere and does not employ the size and number of microperforations in accordance with the teachings of the present invention.

Referring to the test data and plots presented in the attached **Exhibits** 1 and 2, at 4°C (**Exhibit 1**), the O_2 values drop to 1.6% and CO_2 values rise to 13.3% after 2 days (48 hrs). These values closely match those given in Endo Table 2. After four additional days (96 hrs) at 15°C (**Exhibit 2**), the atmosphere inside the mushroom packages equililbrated to 0.02% O_2 and 32% CO_2 - **not** the 0.9% O_2 and 13.7% CO_2 that Endo reports in Table 2 after 4 days.

The respiration rates of mushrooms were also used to determine the gas contents inside Comparison 2 packages (those with 4, 100 micron holes). According to Endo, those packages had an OTR of 23,000 cc/m^2-day-atm (1484 cc/100 in^2-day-atm) and our calculated **O_2 Flux of 391 cc/day-atm**, based on Endo's reported surface area of 26.36 in^2. The spread sheet data and corresponding figures are shown in **Exhibits 3** and **4**.

The calculated data indicate that within 48 hr at 4 °C the O_2 content inside the packages drops to 1.8% and CO_2 value increases to 13.1% **(Exhibit 3)**. After 4 days at 15 °C, O_2 value inside the package would be 0.06% and CO_2 would be 31.5% **(Exhibit 4)**.

Clearly, the OTR values stipulated by the Endo patent are not high enough to prevent anaerobic atmospheres inside the mushroom packages during the storage period. Furthermore, the Endo OTR values are not sufficient to meet the criteria for maintaining an O_2 level of 5% in mushroom packages at all storage temperatures to insure the safety of the packaged mushrooms against *C. botulinum* growth and toxin production.

If these OTR values are not the correct ones, then what is needed to maintain a 5% O_2 value in 100-gram mushrooms packaged in a rigid tray with a lidding film having a surface area of 26.35 in^2 is held at 4°C and 15°C. The Applicant's computer model was used to determine the OTR and O_2 Flux requirements needed to maintain the 5% O_2 value at 4°C and 15°C. Those values are shown in the spreadsheet and graphs given in **Exhibits 5** and **6.**

In order to establish a 5% O_2 level in 100-g packages of mushrooms at 4 °C, an OTR of 387,500 cc/m^2-day-atm (25,000 cc/100 in^2-day-atm) and an O_2 Flux of 6590 cc/day-atm is required at 4°C **(Exhibit 5)**. Similarly, at 15°C, an OTR of 1,550,000 cc/m^2-day-atm (100,000 cc/100 in^2-day-atm) and an O_2 Flux of 26,360 cc/day-atm is required to maintain an O_2 atmosphere of 5% **(Exhibit 6)**.

Therefore, these OTRs are 55 times to 221 times higher than the OTRs specified by Endo for Example 1 in the Endo Patent and 17 times to 67 times greater than the OTRs specified by Endo in the Comparison 2 Example.

Thus, among other things, Endo does not maintain optimum atmospheric conditions. Although the combination is improper, even if Greengrass and Endo were combined, they do not derive claimed features of the present invention.

The Examiner takes official notice it would be obvious to pluck elements from Endo, including microperforations with an average diameter between 110 and 400 microns and total O_2 Flux ranging from 150 cc/day-atm to 5,000,000 cc/day-atm, and apply them to the packaging invention of Greengrass. The Examiner bases his bold conclusions on vague statements and relies on speculation and conjecture to support such obviousness - and takes official notice as needed to support those conclusions. Greengrass and Endo are two distinct inventions intended for two distinct forms of packaging. Applicant has expended considerable effort, as demonstrated by the responses, declarations, supporting materials and test data to explain the present invention, the cited references and the distinguishing attributes as compared to the prior references. The Examiner has provided no indication as to how or why such a combination of Endo and Greengrass is obvious other than to state that both desire "freshness preservation." Such generalities are not a proper basis for an official notice, and further articulation of a rationale to support the official notice is respectfully requested.

If it were obvious, then it should be easy for the Office to find a reference that suggests modifying packaging to include using microperforations to control atmospheric conditions within a registered target area as described in the present invention along with the other recited elements. Examiner is kindly reminded that "assertions of technical fact in areas of esoteric technology must always be supported by citation of some reference work" and "allegations concerning specific knowledge of the prior art, which might be peculiar to a particular art should also be supported." MPEP § 2144.03. The Applicant notes that a reference that merely discloses or suggests general concepts of MAP/CAP and "freshness preservation" is not sufficient to establish a prima facie case of obviousness. Rather, the reference or references must disclose or suggest using the elements as defined by the Applicant's claims.

Reconsideration and allowance of claims 1-8 is respectfully requested.

Claims 2-4, 6, 9, 12, 14, 21, and 22 are rejected under 35 USC 103(a) as being unpatentable over Greengrass in view of Endo and further in view of Kocher. As the Appeal

Brief has already detailed the arguments that readily rebut the rejection, Applicant requests tha the Examiner refer to the Appeal Brief pages 14 - 16 and 27 - 31

Kocher is a laminate structure as depicted in Kocher Fig. 2, having layers of gas-permeable and gas-impermeable layers, bound together by adhesive, wherein the laminate, when subjected to delamination (see Kocher Fig. 3-7), provides a rapid ingress of air into the interior of the package. "In a preferred embodiment of the invention, the laminate provides the lid for a package and delaminates into a substantially gas-impermeable portion and a gas-permeable portion, with the gas-permeable portion being bonded directly to the support member of the package. In this manner, the gas-impermeable portion may be peelably removed from the package to allow atmospheric oxygen to enter the interior of the package. In a particularly preferred embodiment, the gas-permeable portion is provided by perforating the delaminatable, coextruded film and bonding such film to the support member so that, when the laminate is caused to be delaminated within the perforated, coextruded film, the perforations are exposed to the ambient atmosphere and thereby allow for rapid ingress of oxygen into the interior of the package." (Kocher col. 4 lines 10-24) While Kocher does discuss the use of 'perforations' used in conjunction with the multi-laminate layers – the usage pertains to removing the outer, gas-impermeable layer (lid) to allow air to flow through these perforations and gas permeable layers in a rapid manner.

The Kocher invention is far apart from the present invention and Applicant argues elsewhere herein that the combination of Kocher is inappropriate. Claims 3, 4, 9, 12, and 21 are dependent from claim 1 and would be allowable based upon the allowed independent claim 1.

With respect to claims 6, 14, and 22, referencing O_2 and CO_2 transmission rates as well as O_2 flux rates, the Examiner again makes bold unsupported allegations stating the Kocher teaches "the selection of microperforation size depending upon the desired passage of atmospheric gas including oxygen and carbon dioxide (Kocher Col 18, lines 1-3).

This allegation is entirely misplaced and inaccurate. The actual language of Kocher clearly shows that the Examiner is in error on this point, as this section actually reads as follows: "Ideally, the perforations are large enough to permit the passage of atmospheric gas therethrough (oxygen, nitrogen, carbon dioxide), but small enough to prevent the passage of liquids or dirt. (Kocher Col 18, lines 1-5). Quite simply - there is no description in Kocher of any sort for oxygen flux rate /carbon dioxide transmission rate as that is not a function associated with Kocher.

While Kocher does discuss the use of 'perforations' used in conjunction with the multi-laminate layers – the usage pertains to removing the outer, gas-impermeable layer (lid) to allow air to flow through these perforations and gas permeable layers in a rapid manner. The perforations of Kocher are shown in Kocher Figure 6 and described in Kocher Col. 17. The perforations 66 extend thru multiple layers so that when the lid is delaminated and removed (See Kocher Figure 7) the air can flow into the package via the perforations as well as the gas-permeable layer. This provides a **'swift ingress of atmospheric oxygen'** (Kocher Col. 17, lines 57; see also Kocher Col. 4 lines 10-24). The described embodiments are intended for meat packages that are delaminated in the retail stores to cause the meat to develop a desirable red coloring from the oxygen introduced through the microperforations

The Examiner also engages in further official notice that establishing an oxygen and carbon dioxide transmission rates would be readily determined through routine optimization. Applicant respectfully disagrees in this notice in its entirety. The Applicant notes that a reference that merely discloses or suggests perforations in plastic is not sufficient to establish a prima facie case of obviousness. Rather, the reference or references must disclose or suggest using the the perforations to control the atmospheric conditions as defined by the Applicant's claim 6, 14 and 22.

Finally, the routine optimization referenced by the Office is not supported by the overall function of Kocher and is therefore not in accordance with those teachings. Kocher is seeking to let air into the container to turn meat red once delamination occurs. Kocher is not seeking to

establish certain atmospheric conditions according to established O_2 and CO_2 concentrations because there are no specific concentrations mentioned or implied in Kocher. There is no reference to establishing any sort of specific oxygen/carbon dioxide concentrations once delamination occurs, therefore there would be no reason to experiment in that regard. Reconsideration and allowance is respectfully requested.

Claims 7, 10 and 11 are rejected as being unpatentable over Greengrass in view of Endo and Kocher and further in view of Porchia. The Appeal Brief pages 31-33 and 40-41 provide further details of the arguments and Applicant respectfully requests that the Examiner review these pages.

The Examiner acknowledged that Kocher does not disclose a microperforated bag or a registered target within one-quarter or one-third distance from the top seal. However the Office states that Porchia discloses a microperforated bag for controlling the weight loss of fruit stored in the bag. And further, that combining the Greengrass, Endo, Kocher and Porchia would result in a bag to control the weight loss of fruit.

Porchia employs holes throughout the bag, the Applicant fails to see this as being similar to the present claims that recite the microperforations being in a **finite** region – not distributed throughout. Porchia clearly establishes the microhole distribution throughout the Porchia packaging. "By "uniformly distributed" it is meant that the microholes are substantially identically and substantially evenly spaced apart from each other over the entire surface area of the web film or bag." (Porchia, Col. 4, lines 37-40) "To obtain the beneficial effects of the present invention, the microholes should be of a uniform size and uniformly distributed throughout the surface of the bag." (Porchia, Col. 4, lines 34-36). Porchia Figure 1 also shows the microperforations over the entire bag, and not exclusively in a registered finite target area as described and claimed in the present invention.

More importantly, the Examiner correctly recites that Porchia has a desired end result of controlling the weight loss of fruit. Controlling weight loss for fresh produce involves

establishing a water vapor transmission rate so that there is not too much moisture in the bag to cause slime formation of the tissue, and at the same time, not allowing too much moisture to escape and result in wilting/desiccation of the produce. This is not the controlled atmosphere taught by the present invention. Porchia describes a packaging bag with microholes throughout that is "independent of product, shape, amount and transpiration characteristics of stored produce as opposed to controlled atmosphere which generally is designed for each specific packaged product." (Porchia Col. 2, Lines 19-22) Thus, Porchia acknowledges that it is not intended for controlling atmospheric conditions.

Therefore, Porchia does not control and maintain the oxygen and carbon dioxide concentration inside the bag and does not register the microperforations in a finite target area as claimed in the present invention. Taken alone or in combination with the other references do not disclose, suggest or otherwise provide a motivation to practice the claims of the present invention. The rejection of claims 7 and 10-11 is traversed for at least the reasons presented herein.

Improper Combination

As already noted, according to the MPEP §2143.01, "[o]bviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found in either the references themselves or in the knowledge generally available to one of ordinary skill in the art." The proper standard for determining obviousness under 35 USC §103(a) is illustrated as follows:

1. Determining the scope and contents of the prior art;
2. Ascertaining the differences between the prior art and the claims at issue;
3. Resolving the level of ordinary skill in the pertinent art; and
4. Considering objective evidence present in the application indicating obviousness or unobviousness.

The core contention centers on what "a person having ordinary skill in the art" would have considered "obvious at the time the invention was made", wherein hindsight should not be

introduced. And, the Examiner has the burden of showing a prima facie case of obviousness. *In re Mayne*, 104 F.3d 1341 (Fed. Cir. 1997)

If the Examiner is able to establish a prima facie obviousness case, then the Applicant may rebut a prima facie showing of obviousness with evidence refuting the Examiner's case or with other objective evidence of nonobviousness. See *WMS Gaming, Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1359 (Fed. Cir. 1999). In the present case, the Examiner has not even satisfied the initial prima facie case. Even if such a prima facie case was established, the clear evidence of record and the secondary considerations plainly establish nonobviousness.

When obviousness is based on the teachings of multiple prior art references, the Examiner must also establish some "suggestion, teaching, or motivation" that would have led a person of ordinary skill in the art to combine the relevant prior art teachings in the manner claimed. See *Tec Air, Inc. v. Denso Mfg. Mich. Inc.*, 192 F.3d 1353, 1359-60 (Fed. Cir. 1999); *Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1572 (Fed. Cir. 1996).

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990)

A statement that modifications of the prior art to meet the claimed invention would have been within the ordinary skill of the art at the time the claimed invention was made because the references relied upon teaching that all aspects of the claimed invention were individually known in the art is not sufficient to establish a prima facie case of obviousness without some objective reason to combine the teachings of the references. *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993). See also *In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1318 (Fed. Cir. 2000)

"Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a

showing of the teaching or motivation to combine prior art references." *In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999). This is because "**[c]ombining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability—the essence of hindsight.**" Dembiczak, 175 F.3d at 999.

Therefore, a person of ordinary skill in the art must not only have had some motivation to combine the prior art teachings, but some motivation to combine the prior art teachings in the particular manner claimed. See, e.g., *In re Kotzab*, 217 F.3d 1365, 1371 (Fed. Cir. 2000) ("Particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed."); *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998) ("In other words, the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed."). *Teleflex v. KSR International*, 04-1152 (CAFC 2005).

While the reasons, suggestions, or motivations to combine references may be found explicitly or implicitly, the Examiner must refrain from a hindsight-based obviousness analysis that uses the Applicant's claims as a roadmap to weave together references. It is this very clear that when the Examiner relies on an assertion of general knowledge to negate patentability, that knowledge must be articulated. The Examiner cannot rely on subjective conclusory statements when dealing with particular combinations of prior references and specific claims, but must set forth the rationale on which it relies. The failure to establish a clear explanatory record for combining references is not consistent with either effective administrative procedure or effective judicial review.

The rejection of the present claims is primarily based on a combination of referenced that rests upon the Examiner's conclusion that "[i]t would have been obvious for one of ordinary skill in the art at the time of the invention", which is not sufficient evidence. The Examiner has

shown no evidence that the prior references even hint at obviousness of the claimed invention which combines a number of features to produce a novel microperforated packaging material.

The obviousness rejection is especially egregious based upon the evidence submitted by the Applicant including test data, Declarations and secondary considerations that clearly indicate that such combinations were NOT obvious at the time of the invention. The inventor is an expert in this field and has the credentials and background to demonstrate her status in this field. The Examiner seems to dismiss all such material and submit himself as an expert and provide subjective opinions with no factual evidentiary support.

As explained in detail in the Appeal Brief pages 13-40, Applicant has already provided a detailed explanation of Greengrass, Kocher and Porchia in relation to being an improper combination. This includes a further description with respect to being one skilled in the art and includes a summarization of the materials entered to establish secondary meaning. Applicant requests that the Office refer to those pages to refresh his memory concerning those references and the noted distinguishing attributes. Even if initially considered to satisfy a prima facie case for obviousness, the rebuttal arguments, Declarations, test data and secondary considerations set forth that the claims are not obvious.

The Applicant submits that the combination of Greengrass, Endo, Kocher and Porchia is improper in that, when taken as a whole, there is no motivation or suggestion to combine any of these references to achieve the Applicant's claimed invention. Section 2143.01 of the MPEP states: "The mere fact that references can be combined or modified is not sufficient to establish prima facie obviousness." In addition, the "level of skill in the art cannot be relied upon to provide the suggestion to combine references." Thus, it is inappropriate to use the Applicant's claims as a road map in selecting a combination of references to form a 35 U.S.C. §103(a) rejection. Rather, there must be some objective reason to combine the teachings of the references to make the claimed invention. The Applicant cannot find such an objective reason, and the Examiner has provided no such reason.

As stated, Greengrass describes a mechanical perforating system that punches holes in the film with the perforation being in rows on the film. The size/shape/number of the microperforations in Greengrass employ holes intended to improve package longevity with empirical estimations related to delayed "ripening". The Greengrass hole sizes are described in the various embodiments and claimed as being 20 mm (20,000 microns) to 60 mm (60,000 microns). As shown in all the Greengrass Figures, the Greengrass perforations are not in a target area on the package, but distributed throughout the main body of the plastic film. Thus, Greengrass uses a mechanical punch to make very large size holes to establish some atmospheric condition within the package and does not place the microperforations in a registered, finite target area.

Endo describes a packaging film with microperforations on the lid of film and intended for preserving freshness in mushrooms. The microperforations are not in a registered target area. There is a consideration of the OTR although the optimum rate is shown to be entirely different than the ranges depicted in Endo.

Kocher is a laminate structure having layers of gas-permeable and gas-impermeable layers, bound together by adhesive, wherein the laminate, when subjected to delamination (see Kocher Fig. 3-7), provides a rapid ingress of air into the interior of the package. Kocher is intended to be a sealed barrier (gas-impermeable) package until a delamination occurs that separates the gas-impermeable layer from the gas-permeable layer to allow air to rapidly ingress into the container via the gas-permeable layer and the perforations so that the interior of the container has the same atmosphere as ambient air. While Kocher does discuss the use of 'perforations' used in conjunction with the multi-laminate layers – the usage pertains to removing the outer, gas-impermeable layer (lid) to allow air to flow through these perforations and gas permeable layers in a rapid manner.

Porchia describes a packaging bag (see Porchia Fig. 1) with large microholes throughout and is not intended for controlling atmospheric conditions for specific oxygen/carbon dioxide rates. The Porchia packaging "controls the weight loss of produce" and "localized condensation

in the bag" by controlling the water vapor transmission rate of the package. (Porchia Col 2, lines 26-29) And, the purpose of the microholes is to pass moisture, wherein "[the shape of the microholes is not critical, as long as the holes allow moisture to pass therethrough." (Porchia Col 4, lines 29-30) Controlling weight loss for fresh produce involves establishing a water vapor transmission rate so that there is not too much moisture in the bag to cause slime formation of the tissue, and at the same time, not allowing too much moisture to escape and result in wilting/desiccation of the produce. (Porchia Col 2, lines 8-12; 14-16; 30-33) There is no registered target area described in Porchia. Therefore, Porchia does not employ size/number of microperforations to control the oxygen and carbon dioxide concentration inside the bag/package, does not register the microperforations in a well-defined target area on the bag, and does not establish any flux rate as in the present invention.

In general, these packaging products are in different industries, are functionally different, and are structurally different. The meat laminate film of Kocher (see Kocher Fig. 6) does not remotely resemble the microperforated packaging of Greengrass (see Greengrass Fig. 1, Fig. 2, Fig. 3, Fig. 4a, Fig. 4b) and the manufacturing processes and usage of these two films are very different. The perforations of Kocher are shown in a delaminated presentation in Kocher Fig. 7, however this figure is derived from Kocher Fig. 6 – showing the laminate assembly that is entirely different than Greengrass. The Examiner is not allowed to pick and choose specific portions and figures from among different unrelated patents and improperly make combinations in order to find obviousness. Endo is described solely in relation to mushroom packaging and does employ MAP concepts. However as compared to the other references, it is in a different market and has very different characteristics. The Kocher and Porchia references must be considered individually and there must be some teaching, suggestion, or motivation in the references themselves or in the knowledge generally available to one of ordinary skill in the art to combine the references. The Examiner has not provided any reasonable explanation, and the level of skill in the art cannot be relied upon to provide the suggestion to combine the references. See *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999)

As an example illustrating the significant deviation between these inventions, incorporating the multi-layered laminate of Kocher with Greengrass does not produce a film suitable for either industry. A sealed impermeable laminate applied to respiring produce of Greengrass would result in spoiled produce. Likewise, having perforated films for the meat products of Kocher would result in spoiled meat as the meat would be subject to the oxidative effects of air and the growth of aerobic spoilage microorganisms throughout the shipping process. Thus, there is no logical objective basis to combine these references and none has been stated. In addition, such a combination violates § 2143.01 of the MPEP, which states that if "the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)"

Applicant submits that the Examiner has not established a *prima facie* case of obviousness with respect to the argued claims. Applicant submits that a person of ordinary skill in the art would not have been motivated to combine or modify the teachings of Greengrass and Endo and with Kocher and Porchia to produce the microperforated packaging material with the claimed elements therein. Examiner must clearly explain the basis for the combination of each reference, as bald conclusions in light of all the materials of record is not proper. Reconsideration and allowance of all claims is respectfully requested.

Secondary Considerations

Once again, Applicant would like to remind the Office of the secondary considerations recited in the various responses and Declarations wherein the commercial success was noted. Furthermore, in a highly competitive marketplace with many competing products, the reason for the commercial success was the superior performance of the product according to the teachings of the present invention as evidenced by test data and third party statements, thereby demonstrating the nexus between the commercial success and the claimed invention.

Evidence of secondary considerations form part of the 'totality of the evidence' that is used to reach the ultimate conclusion of obviousness." *Richardson-Vicks Inc. v. Upjohn Co.*, 122

F.3d 1476, 1483, 44 USPQ2d 1181, 1187 (Fed. Cir. 1997). The usefulness of this type of evidence lies in the fact that it "serves as a guard against slipping into hindsight" during the determination of obviousness, *Graham*, 383 U.S. at 17-18, in that it may demonstrate that the invention, while it appears to be obvious upon looking back in time with hindsight, really was not. *Stratoflex Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538-39, 218 USPQ 871, 879 (Fed. Cir. 1983).

As already indicated, the Supreme Court set forth four factors that the courts must consider when determining whether a claimed invention is invalid because it is obvious, which includes "objective" or "secondary" considerations, such as whether there was a long-felt need for the claimed invention, the failure of others, or whether the claimed invention has enjoyed commercial success. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). The economic and motivation issues are "more susceptible of judicial treatment than are highly technical facts often present in patent litigation." *Id.* at 36. The Federal Circuit has found that "evidence of secondary considerations may often be the most probative and cogent evidence in the record." *Stratoflex Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 38 (Fed. Cir. 1983), see also *In re Mayne*, 104 F.3d 1339 (Fed. Cir. 1997).

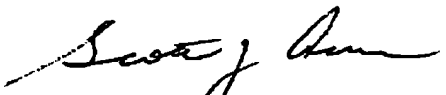
And the Examiner provides no evidence to support the combination of Endo and Greengrass other than stating that such a combination is obvious "in order to obtain a packaging which preserves freshness." (Office Action dated 06/30/2005, page 3)

Telephone Interview

The Applicant believes that the present remarks and amendments should place the present application in condition for allowance. However, if the Office does not grant allowance of all claims, the Applicant respectfully requests a Telephone Interview. Present Office policy places great emphasis on telephone interviews and it is particularly desirable if the parties feel the interview will be beneficial to advance prosecution of the application. It is believed that a personal interview would materially assist in placing the application in condition for allowance and Applicant respectfully requests a personal interview.

Applicant believes the above amendments and remarks to be fully responsive to the Office Action, thereby placing this application in condition for allowance. No new matter is added. Applicant requests speedy reconsideration, and further requests that Examiner contact its attorney by telephone, facsimile, or email for quickest resolution, if there are any remaining issues.

Respectfully submitted,



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